

FY2018 Insp

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

N585045160

FACILITY: BROACHING MACHINE SPECIALTIES		SRN / ID: N5850
LOCATION: 25180 SEELEY, NOVI		DISTRICT: Southeast Michigan
CITY: NOVI		COUNTY: OAKLAND
CONTACT:		ACTIVITY DATE: 07/02/2018
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY 2018 inspection of Broaching Machine Specialties, Inc. ("Broaching" or "BMS")		
RESOLVED COMPLAINTS:		

Broaching Machine Specialties, Inc. (N5850)
25180 Seeley Road
Novi, Michigan 48375-2044

Phone: 248-471-4500

Rule 336.1287(2)(c): Tino's Maintenance and Painting, a contractor, brings a portable paint spray booth to paint the ready-to-ship broaching machines (≈30 machines per year ≈30 times per year ≈30 gallons per year) before they are shipped.

Not Subject to: NESHAP/ MACT T, area source National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; NESHAP/ MACT T); Correction; 29484 Federal Register / Vol. 60, No. 107 / Monday, June 5, 1995 / Rules and Regulations; amended National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T); Final Rule; Page 25138 Federal Register / Vol. 72, No. 85 / Thursday, May 3, 2007 / Rules and Regulations. Solvents containing halogenated compounds are not used.

On July 02, 2018, I conducted a level-2 self-initiated **FY 2018 inspection** of Broaching Machine Specialties, Inc. ("Broaching" or "BMS"), a broaching machines building company, located at 25180 Seeley Road, Novi, Michigan 48375-2044. The inspection was conducted to determine compliance with the requirements of federal Clean Air Act; Article II, Air Pollution Control, Part 55 of Act 451 of 1994; and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the FY 2018 inspection, Mr. Lance Ertman (Phone: 248-471-4500; Fax: 248-471-0745; Lance.Ertman@BroachingMachine.com), Manufacturing Manager, assisted me.

Mr. Chuck Good (Phone: 248-471-4500; Fax: 248-471-0745; Chuck.Good@BroachingMachine.com), Manufacturing Team Leader, did not participate.

Mr. Lee Egrin, Owner and CEO, semi-retired, and Mr. Mathew Egrin, son, Owner and President, did not participate.

The company builds broaching machines, i.e. metal cutting machines. The company also rebuilds both used and new machines. Broaching in its business model has only one-third automotive business and hence insulating itself from cyclical nature of automotive industry.

Three portable welding (one large Lincoln Mig Welder, one small Lincoln Mig Welder and one Lincoln Arc Welder) machines are present. Plasma cutting machines are present as well. The machines are enclosed with no discharge of exhaust gases to outside ambient air. Several grinding and cutting machines, which are used about 2% percent of the time, are present. The machines are not equipped with any dedicated exhaust system to outside ambient air. The emissions are insignificant and are released into the general plant environment, which has ventilation fans on roof.

Within the enclosure, plasma cutting machines are present as well. Electrically conductive materials, such as iron & steel, aluminum, copper, brass, etc., are plasma-cut using electrical channel of super-heated, electrically ionized gas known as plasma.

These operations are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.285(2)(l) or Rule 336.285(2)(i) (welding).

Two (2) acetylene torch cutting machines are present and all emissions are released to in-plant environment. The torch cutting operations are exempt as well from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.285(2)(l).

Acetylene (C₂H₂ CAS # 74-86-2 with carbon-to-carbon triple bonds; VP = 44 atm. at 20 °C) and oxygen (O₂) mixture is used in welding operation to obtain highest flame temperature (adiabatic flame temperature = 2,534 °C = 4,593 °F with stoichiometric air & adiabatic flame temperature = 3,480 °C = 6,296 °F with stoichiometric oxygen). Use of oxygen instead of air avoids quenching effect of atmospheric nitrogen (air ≈ 79 %v N₂ + 21 %v O₂).

AQD removed this facility from MAERS, about 2000, based upon company's request and information submitted. Based upon subsequent inspections (after 2006), this was a correct decision.

Three cold-cleaners

There are three (3) cold-cleaners (4 ft. * 2 ft. and 5 ft. * 3 ft), which were installed in 1989. Each cold-cleaner is subject rule 336.611 or 336.1707 depending on if it is new or existing. A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979. As the coldcleaners were installed in 1989, they are considered new coldcleaners.

During the FY 2007 inspection, I found that the operating procedures were not posted. I gave, on January 12, 2007, Mr. Ertman a copy of DEQ's "cold-cleaner operating procedures".

Repeat compliance assurance inspection was conducted on May 21, 2009. The operating procedures were posted but work-practice procedures were not implemented as indicated by open lids at all times. Mr. Ertman stated on May 21, 2009, that he would incorporate the "cold-cleaner work-practice" into 'ISO Program' and 'Training Program'. It was decided not to issue a violation notice (VN). Instead repeat inspection was conducted on October 8, 2009.

During the repeat inspection of October 8, 2009, Mr. Egrin stated that employees were trained once every three months regarding environmentally sound cold-cleaner operating procedures. I confirmed that the lids were closed when not in active use.

During the FY 2018 inspection, I confirmed that the cold-cleaner work-practice procedures were posted and the lids were closed. During the FY 1018 inspection, as original decals were soiled, I gave again DEQ's decals for "cold-cleaner operating procedures" for posting and complying with work-practice rules. I asked the company to follow the common-sense work practice in the procedures.

The Cold-cleaners are NOT Subject to: 40 CFR, Part 63, Subpart T, NESHAP/ MACT T, since solvents containing halogenated compounds are not used.

Zep's Dyna 143 (Product No. 0366) parts cleaner solvent (Light Aliphatic Naphtha – Petroleum Distillate.

100% VOC solvent. Flash Point (FP) = 143 °F Pensky Martins Closed Cup. Auto Ignition = NA °F. Boiling Point (BP) = 377-412 °F @ 760 mm Hg. Vapor Pressure (VP) = 0.32 mm Hg (0.043 kPa or kilo Pascal) at 68 °F. Specific Gravity (SG, Water = 1.0) = 0.79. Density (ρ) @ 68 °F = 6.58 lbs. / gallon (0.790 kg /L). Flammability range = 1 %v (LEL) – 7%v (UEL).

Three cold-cleaners are as follows:

1. One Powermaster is a tank type cold-cleaner with a power-assisted lid. As the lid closes, the parts are immersed into a solvent. The lid was closed. The unit is equipped with a bag to clean solvent via filtration.

The cold-cleaner work-practice procedures are posted. The parts immersion device and the lid are linked together and hence lid must be closed to soak parts in liquid.

2. One Kleer-Flo CleanMaster is a tank type cold-cleaner consisting of one 55-gall drum reservoir for solvent storage / drainage from the tank with a mechanically-assisted lid. Solvent can be sprayed on soiled parts. The lid was closed. The cold-cleaner work-practice procedures are posted.
3. One Handi-Kleen is a tank type cold-cleaner with a mechanically-assisted lid. During prior inspection, it was long-term idled. Eventually, Handi-Kleen has been removed since November 2017.

With respect to all cold-cleaners, during the FY 2018 inspection, lids were closed, DEQ decals were posted albeit soiled.

All cold-cleaners are self-serviced. Currently (FY 2018), spent cold-cleaner solvent is disposed of as RCRA hazardous waste. Based upon my discussions, Mr. Ertman will look into swapping spent solvent for clean solvent with the solvent supplier with a twin objective of saving money and to be eco-friendly. Broaching is not able to recycle spent solvents as of June 2018.

Sandblasting Unit

About 2010, BMS purchased and installed one Trinco sandblasting machine.

Metal parts surface is prepared by sandblasting with sand. The process is equipped with an air pollution control system, consisting of a cyclone (primary control for large particles to increase longevity of bags by reducing load and impact by large particles of high momentum [mv]) and a fabric filter arranged in series, to collect the dust. The collected sand is reused. The bags are cleaned using a pulse-jet air system. Collected sand is NOT reused and fines that are lost are made up with fresh sand.

Because exhaust air is recirculated upon cleaning into the building, the process is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l).

Portable Rule Rule 336.1287(2)(c) Paint Spray Booth

All painting is outsourced. A contractor (Tino's Maintenance and Painting [248-850-7370], 21151 Meyers Road, Oak Park, MI 48237) brings his equipment, builds a temporary booth and paints the machines for Broaching.

Paint usage records are not kept; Mr. Ertman stated that about 30 gallons of paint per year was used for about 30 machines per year. Solvent based 2-component epoxy coatings are used. 3-4 colors are used. I asked Mr. Ertman to ensure that the overspray paint filters are installed properly during the painting to protect exhaust fan from going out of balance and to protect cars outside.

The booth was not present during the FY 2018 inspection and I have never seen this portable booth in operation.

I asked Mr. Ertman to make sure to install and inspect the filters on portable paint booth such that they fit, at all times, snugly without gaps and holes. I also asked him to keep records of paint and solvent usage according to Rule 336.1287(2)(c).

The booth is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(2)(c).

All broaching machines after assembling and painting are tested. Water based coolants are used to cool tools albeit oil-based coolants are used occasionally. Hydraulic oil is stored at the facility.

Conclusion

A decision to remove this source from MAERS is correct based upon level-2 inspection. After several failures, BMS has implemented cold-cleaner work-practice rule (Rule 707). A contractor sets up a portable booth (Rule 287(2)(c)) for painting finished broaching machines. Broaching complies with the exemption rules.

NAME J. S. Kenamahadi DATE 07/12/2018 SUPERVISOR Joyce A.